

IN THE CLAIMS:

Amend the following claims:

Claim 1 (currently amended): A perpendicular magnetic recording system comprising a perpendicular magnetic recording medium having a soft magnetic underlayer and a magnetic recording head for performing magnetic recording on said perpendicular magnetic recording medium, said magnetic recording head having a plurality of poles including a main pole for finally recording a magnetization reversal on said perpendicular magnetic recording medium, the perpendicular magnetic recording system satisfying

$$T_{b1} < (B_{S1} \times T_m \times T_{ww}) / 2(B_{S2} \times (T_m + T_{ww})),$$

where T_{b1} is the thickness of said soft magnetic underlayer in said perpendicular magnetic recording medium, B_{S2} is the saturation flux density of the same, T_m is the thickness of said main pole along a track direction in the vicinity of its floating surface, T_{ww} is the track width of the same and is less than $0.5\mu\text{m}$., and B_{S1} is the saturation flux density of the same.

Claim 2 (original): The perpendicular magnetic recording system according to claim 1, wherein the thickness T_{b1} of said soft magnetic underlayer satisfies

$$T_{b1} > 0.25 (B_{S1} \times T_m \times T_{ww}) / 2 (B_{S2} \times (T_m + T_{ww})).$$

Claims 3 and 4: cancelled.

Claim ~~5~~³ (original): The perpendicular magnetic recording system according to claim 1, wherein the distance between said main pole and another pole of said magnetic recording head is greater than or equal to $0.5\mu\text{m}$.

Claim ~~6~~⁴ (original): The perpendicular magnetic recording system according to claim 2, wherein the distance between said main pole and another pole of said magnetic recording head is greater than or equal to $0.5\mu\text{m}$.

Claim 7 cancelled.

Claim ~~8~~⁵ (original): The perpendicular magnetic recording system according to claim ~~5~~³, wherein the thickness T_{b1} of said soft magnetic underlayer in said perpendicular magnetic recording medium is smaller than or equal to $0.2\mu\text{m}$.

Claim ~~9~~⁶ (original): The perpendicular magnetic recording system according to claim ~~6~~⁴, wherein the thickness T_{b1} of said soft magnetic underlayer in said perpendicular magnetic recording medium is smaller than or equal to $0.2 \mu\text{m}$.

Claim 10 cancelled.
